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EXAMINER	
LUONG, ALAN H	
ART UNIT	PAPER NUMBER
2623	

NOTIFICATION DATE	DELIVERY MODE
07/07/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

Office Action Summary	Application No.	Applicant(s)	
	10/821,476	ALSOBROOK ET AL.	
	Examiner	Art Unit	
	ALAN LUONG	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03/05/2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Art unit is changed into 2623

Response to Amendment

This Office Action is responsive to the Amendment filed on 03/05/2008.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 7-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Line 4, 5, 6 and 8 of claim 7 is amended with "unmodulated IP signals" which is not disclosed in specification.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pub. No. 2002/0147978 issued to Dolgonos et al. (hereinafter Dolgonos).

Regarding to claim 1: Fig. 1 of Dolgonos illustrates an optical network [10] for support “a fiber-to-the-home (FTTH) system” which includes “ a head end facility” [200], Fiber Ring [202] connecting to Distribution Hub [12a-12c] that communicates with a plurality of subscriber premises” [20] in home unit [204] through Cable plant [14], wherein provide a communication link from Home [204] to Internet [18]. The subscriber unit [20] "transmits and receives IP signals from head-end [200]” **(**Dolgonos**, ¶0017)**, the optical_network [10] comprises: “an optical network terminal (ONT)”as cable plant [14] or fibre termination node [15] “for receiving optical downstream” signal from wide area network (head end [200]) and convert Optical signal to RF downstream IP signals in a downstream channel over a wired cable plant [14] and receives RF "upstream IP signals” from a plurality of antenna nodes of subscriber [20] “and for routing the IP signals to a coupled device or the FTTH system “ in wide area network (Dolgonos**, ¶0007, ¶0025)**. And Fig. 4 of Dolgonos illustrates an antenna node [16] as “the receiving device comprises: an Ethernet switch [TCP/IP] [32] for routing downstream IP signals”; the receiving device receives downstream IP signals from Internet via the head-end [200] and transmit to cable plant [14].**(¶0026).** Fig. 5 of Dolgonos illustrates

the receiver [16] has demodulator [40] for receiving and detecting downstream IP video and audio signals to provide baseband signal to controller [42] which converting the digital output of the QAM modulator [40] into a TCP/IP output signal providing to TCP/IP interface [46] in OFDM transceiver [34] wherein has "a modulator" as transmitter front end [54] for modulating the IP video and audio signals to provide RF signals" in downstream channel to subscriber [20]. (Dolgonos, **¶0027-¶0028)**. Finally, Fig. 5 of Dolgonos illustrates "at least one digital home communications terminal (DHCT) [20] receiving the RF video signals from the modulator" [54] wherein transmits through antenna [30] of OFDM transceiver [34]. **(Dolgonos, ¶0028).**

Regarding to claim 2: The FTTH system of claim 1, Figs. 1, 2 of Dolgonos illustrate (the headend 200, fibre ring 202, distribution hubs 12a-c , cable plant 14 and cable plant interface [32] provide a communications link through which Internet ready devices, such as personal computers, located at subscriber homes 204 can communicate with the Internet 18) meets "wherein the receiving device for providing IP data signals to a computer via a computer address" (**Dolgonos, ¶0017, ¶0019).**

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **3, 7 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. 2002/0147978 (US'978) issued to Dolgonos et al. ,in view of US Patent No.7,190,901 (US'901) issued to Farmer et al.

Regarding to claim 3: The FTTH system of claim 1, Dolgonos reference is silent "wherein the optical network terminal-for providing IP telephone signals to a coupled telephone".

In an analogous art directed toward a similar problem namely improving the results from providing IP telephone signals to a coupled telephone". Farmer discloses wherein the optical network terminal-for providing IP telephone signals to a coupled telephone". (See col.17 lines 39-54). At the time of the invention, it would have been obvious to one with ordinary skill in the art to combine a optical IP network of Dolgonos with Voice over IP as taught by Farmer for provide Internet phone to DHCT.

Regarding to claim 7: (Currently Amended) Fig.3 of Dolgonos illustrates an optical network [10] support "a method for transmitting and receiving IP signals in a fiber-to-the-home (FTTH) network, the IP signals including video, audio, voice, and data signals, the FTTH network including a forward path and a reverse path **(Dolgonos, ¶0022)**, the method comprising the steps of:

In the distribution Hub [12a-12c], the transmitter of [28] is "transmitting unmodulated IP signals to a plurality of subscriber premises" [20] through the cable plant [14] ." At an optical network terminal (ONT)" [fibre node [15] "receives the unmodulated IP signals" which is "located at each of the plurality of subscriber premises" [20], the unmodulated

IP signals including unmodulated IP data signals and IP video and audio signals;

(**Dolgonos, ¶0022, ¶0023).**

Headend [200] is "providing the unmodulated IP video and audio signals" in downstream optical signal to Distribution Hub [12a-12c] and fibre node [15] is connecting with receiving device [16] contains "a switch [TCP/IP] included in a single wire return device (SWRD) [32] that contains a QAM mod/demodulator [40], the unmodulated IP video and audio signals are separated at Mod/Demodulator [40] providing to controller [42] converted into base band signal to a TCP/IP output signal at TCP/IP interface [46] of OFDM transceiver [34] wherein is "modulating the IP video and audio signals at the QAM modulator [40] in the SWRD [16] to provide modulated video and audio signals" to transceiver [34] wherein "providing the modulated video and audio signals" through antenna [30] to "an OFDM demodulator [82] "of subscriber modem [22] in a DHCT [20] .(**Dolgonos, Fig. 5, 6 , ¶0025 to ¶0028 and ¶0035).**

Regarding to claim 8: (Original) The method of claim 7, Dolgonos further teaches the step of providing the IP data signals (see claim 7 discussion), but is silent "providing the IP data signals to the switch, wherein the switch provides the IP data signals to a coupled computer".

In an analogous art directed toward a similar problem namely improving the results from the switch provides the IP data signals to a coupled computer . Fig. 6 of Farmer shows the switch [513] is connected to output of processor [550] provides the up stream signal (IP data signals) to a coupled computer which contains the processor [550] **(Farmer, col.18 line 62 to col.19 line 6)** At the time of the invention, it would have

been obvious to one with ordinary skill in the art to combine a optical IP network of Dolgonos with a Internet switch as taught by Farmer in order to provide the IP data signals to a coupled computer.

4. Claims **4-6 and 9-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dolgonos et al. and Farmer et al;** in view of **US Patent No.5,481,542 (US'542)** issued to **Logston et al.**

Regarding to claim 4: In the (FTTH) system as claim 1 above, Fig. 4 of Dolgonos illustrates "a reverse path" from [cable plant interface 32] in antenna node [16] to CMTS[26] inside Distribution Hub [12] at head end [200] site, comprising:

at least one digital home communications terminal (DHCT) [20] for transmitting reverse RF signals (Dolgonos, **¶0026**) . Fig. 3 of Dolgonos shows a CMTS [26] at" the headend facility [200] for receiving the optical signals" from a group of customer IP devices on a dedicated "upstream channel" and routes it through the headend 200 to an Internet Service Provider (ISP) for connection to the Internet 18 and "a downstream modulator located in the CMTS [26]" modulates IP signals transmitting to transmitter of [28] "for sending the forward signals " in downstream channel in cable plant [14] to subscriber [20]. (Dolgonos, **¶0023**) and Fig. 4 of Dolgonos shows each antenna node [16] functions as a coaxial cable/wireless transverter. The cable plant interface [32] and transceiver [34] support both upstream and downstream traffic. The antenna node [16] is "the receiving device for receiving the reverse RF signals" in upstream channel from subscriber units 20 into TCP/IP compliant signals, which are then converted into

DOCSIS compliant upstream signals by the cable plant interface 32 and transmitted through the cable plant 14., provides to CMTS [26] wherein QPSK/16 QAM demodulator inside CMTS[26] is "demodulating the reverse RF signals, and converting the demodulated signals to Ethernet signals" (Dolgonos, **¶0022 to ¶0026**). Additionally, Fig. 1 of Dolgonos shows the ONT (cable plant [14] and the fibre node [15]) "for converting the Ethernet signals to optical signals" (Dolgonos, **¶0025)** and distribution hub [12] is connected with Router [208]"for transmitting the optical signals to the headend facility [200] via optical fiber ring [202] (Dolgonos, **¶0019)**;

Finally, Dolgonos teaches the headend network management system 210 uses Simple Network Management Protocol (SNMP) for managing the communications system [10] maintains a list of all addresses of IP devices including information as to which subscriber IP devices as receiver [16] are serviced by each hub 12a-12c.[headend 200](Dolgonos, **¶0020)** wherein the at least one DHCT (antenna node [16] and subscriber modem [22]. In the [34], the QAM demodulator [40] converts the base band signal into a digital stream that is provided to controller 42. The controller 42 includes a CPU, which manages the overall operation of the cable modem 32, and preferably an Ethernet controller for converting the digital output of the QAM modulator 40 into a TCP/IP output signal that is 10/100 Base-T Ethernet compliant. The controller 42 has an IP address associated with it, and is able to accept commands from and exchange information with the hub [12], and in particular with the hub management system 222 "inserts the received modulator identification number in the reverse header information", (In respect of upstream traffic, the Ethernet controller is configured to receive 10/100

Base-T Ethernet compliant upstream signals from the OFDM transceiver 34. As the cable plant upstream channel is shared among a group of subscribers, the controller 42 is configured to provide DOCSIS compliant Media Access Control (MAC). Under instructions from the controller 42, QPSK/QAM modulator 44 modulates and upconverts the upstream signals to an upstream channel for transmission over the cable plant 14 to the CMTS 26) meets "wherein the receiving device of [16] converts the modulator identification number into an Internet Protocol address under controller [42] indicative of the modulator identification number". (Dolgonos, **¶0027)**. However, Dolgonos fails to discloses "the reverse RF signals including header information and payload data; an identification number of the downstream modulator is inserted into the forward signals"

In an analogous art directed toward a similar problem namely improving the results from an identification number of the downstream modulator is inserted into the forward signals. Fig. 2 of Logston illustrates the downstream modulator [124] having an identification number that is inserted into the forward IP signals (Logston, col.19, lines 46-61). Also, Figs. 5A, 5B and 5C of Logston illustrate the reverse RF signals including header information and payload data.(" a message cell format…has a 40 bit message cell header and a 384 bit message payload area." (**Logston; col.14 line 38 to col. 15 line 4)**. Logston further discloses wherein the at least one DHCT inserts the received modulator identification number in the reverse header information, and wherein the SWRD converts the modulator identification number into an Internet Protocol address indicative of the modulator identification number. (Logston, col.19, lines 18-62 and Fig. 5). Therefore, it would have been obvious to one with ordinary skill in the art at the time

of the invention was made to couple the downstream modulator having an identification number that is inserted into the forward signals, and modifying the header information and payload data as taught by Logston, in order to couple the header information and payload data into the reversed RF signals in the DHCT wherein the SWRD converts the modulator identification number into an Internet Protocol address indicative of the modulator identification number .

Regarding to claim 5: The FTTH system of claim 4, Dolgonos reference is silent with "the receiving device further comprising:

an upstream demodulator coupled to a diplex filter for demodulating the reverse RF signals;

a microprocessor for converting the demodulated signals into the Ethernet signals and for providing the Ethernet signals to the switch; and

the switch for receiving the Ethernet signals and any additional signals from a second source, the switch for combining the signals and for providing a combined signal to the ONT".

In an analogous art directed toward a similar problem namely improving the results from demodulating the reverse RF signals, Fig. 7 of Farmer shows the receiving device further comprising:

an upstream demodulator in [117] coupled to the diplex filter [507] for demodulating the reverse RF signals; (Farmer, col. 18, lines 2-60)

a microprocessor [550] handles the data from an Internet service, controlling switch 513 for connection with data conditioner [407] converting the demodulated

signals to RF packets can be formatted as Ethernet signals (col. 18, lines 51-67) the switch [513] for receiving the Ethernet signals from data conditioner [407] and any additional signals from a second source as output of processor [550], the switch [513] is activated "for combining the signals and for providing a combined upstream RF packets with upstream signal to the ONT [110].(col. 18 line 62 to col.19, line 2). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to combine a hybrid communication system of Dolgonos with demodulating the reverse RF signals as taught by Farmer to combine upstream RF packet with upstream data signal to optical network terminal.

Regarding to claim 6: Farmer discloses the FTTH system of claim 5, wherein the receiving device converts the identification number into the Internet Protocol number via the microprocessor. (Farmer, col.17, lines 39-54)

Regarding to claim 9: In the method of Farmer and Dolgonos in claim 7, Farmer also discloses further comprising the steps of:

generating a reverse RF modulated signal including header information in a digital communications terminal (DHCT); (Farmer col.22 line 66 to col. 23 line4 and Fig. 12 step 1220)

providing the reverse RF modulated signal via coaxial cable to a single wire return device (SWRD); (col.24, lines 47-57 and Fig.13)

demodulating the reverse RF modulated signal to provide a reverse demodulated signal; (col.23, line 47 to col.24 line 25 and Fig.13)

processing the reverse demodulated signal to provide a reverse Ethernet signal; (col.18 lines 41-52 and col. 19 lines 41-43, Fig. 7 block 407)

converting the reverse Ethernet signal to a reverse optical signal in an optical network terminal (ONT) (col.23, lines 14-18, and Fig.12 step 1230, 1235); and

receiving the reverse optical signal at a downstream modulator corresponding to the identification number located in a head end facility,(col. 23, lines 16-46 and Fig. 12 steps1240, 1245, 1250, and 1260)

However, Farmer and Dolgonos fail to disclose wherein the downstream modulator transmits a forward IP signal in response to the received reverse optical signal.

In an analogous art directed toward a similar problem namely improving the results from the downstream modulator transmits a forward IP signal in response to the received reverse optical signal. Fig. 2 of Logston represents blocks 108, 112, 124 and 128 discloses the forward signaling path between the service provider (SP) and Set Top Terminal (STT) is provided via CMC on Ethernet to QPSK modulator...The forward path electrical signal output by QPSK modulator is provided to RF combiner along with the 64 QAM video signals…" meets "wherein the downstream modulator transmits a forward signal in response to the received reverse optical signal "(see Logston, col.8 lines 27-44). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the hybrid communication system of Dolgonos and Farmer with the SWRD converts the identification number of modulator

into IP address taught by Logston; in order to provide a bi-directional communication between DHCT and headend through IP network.

Regarding to claim 10: In the FTTH system of claim 9, Logston further discloses "wherein the downstream modulator includes an identification number that is inserted into signals transmitted in the forward path and stored in the DHCT, and wherein the DHCT inserts the received identification number into the reverse header information prior to transmitting to the SWRD. (Logston col.19 lines 22-61 and Fig. 5A, 5B and 5C)

Regarding to claim 11: Logston further discloses the FTTH system of claim 10, wherein the SWRD converts the identification number into an Internet Protocol address that is indicative of the identification number. (Col.19 lines 44-61 and Fig. 5A-5C) . Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify at the headend wherein the downstream modulator transmits a forward IP signal in response to the received reverse optical signal and insert the received identification number into reverse header information prior to transmit to the SWRD, wherein the SWRD convert the identification number into IP address taught by Logston as taught in the FTTH system of Farmer and Dolgonos; in order to communicate DHCT to headend through IP network.

Response to Arguments

4. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN LUONG whose telephone number is (571)270-5091. The examiner can normally be reached on Mon.-Thurs., 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. L./

Examiner, Art Unit 2623

/Scott Beliveau/

Supervisory Patent Examiner, Art Unit 2623